



New Source Performance Standards for Boilers Burning Natural Gas Only

Michigan Department of Environmental Quality Environmental Science & Services Division 800-662-9278

This fact sheet is designed to help owners of commercial, industrial, and municipal buildings operating small natural gas-fired boilers comply with the requirements found in a federal air regulation known as the New Source Performance Standards (NSPS).



What is NSPS?

The United States Environmental Protection Agency (U.S. EPA) created NSPS in an effort to regulate new sources of air pollution and ensure that those sources pollute less than the older ones they replace. NSPS have been written for over 75 categories of sources ranging from small boilers to large municipal sewage sludge incinerators. The NSPS typically places limits on the emission of air pollutants such as carbon monoxide, sulfur dioxide and particulate matter, and requires performance testing, recordkeeping, reporting and monitoring.

Where to Find Copies of the NSPS

The U.S. EPA publishes the NSPS and all other federal regulations in the Code of Federal Regulations (CFR). The CFR is divided into 50 titles that represent broad areas subject to federal regulation. Environmental regulations are found in Title 40 (Protection of Environment). The Titles are further subdivided into Chapters, Parts and Subparts. The NSPS regulations are found in Part 60 (New Source Performance Standards). Each regulation has its own Subpart within Part 60. For example, regulations applicable to small boilers are found in Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units).

To obtain a copy of 40 CFR Part 60, Subpart Dc, go to www.epa.gov, select "Laws, Regulations & Dockets," select "Code of Federal Regulations," and then select "The Electronic Code of Federal Regulations (e-CFR)." From this page, use the browse option (drop-down box) to select "Title 40 – Protection of Environment" and click on "Go." Click on "60.1-End," then click the table of contents and scroll down to the Subpart Dc section.

What Does this Fact Sheet Cover?

This fact sheet examines the portion of Subpart Dc that applies to boilers that only burn natural gas. If your boiler burns or is equipped to burn other fuels, such as oil for back up purposes, then you will need to read the relevant parts of the standard that apply to that fuel usage.

What Boilers are Subject to the Subpart Dc Standards?

Subpart Dc applies to steam generating units (boilers) from small commercial, industrial, and municipal buildings (e.g., schools, hospitals, churches, retail buildings, etc.) that meet all of the following:

- Combust any of several fuel types, including coal, oil, natural gas, and wood. (This fact sheet pertains to boilers that are capable of only burning **natural gas**).
- Maximum design heat input capacity is greater than or equal to 10 million Btu/hr (2.9 megawatts or 298.7 horsepower) and equal to or less than 100 million Btu/hr (29 megawatts or 2,987 horsepower).

You can get the maximum design heat input capacity rating from the "boilerplate" on the boiler or contact the boiler's manufacturer. There may be different ratings for different fuels.

Most boilers have the input ratings on the burner assemblies or on the American Society of Mechanical Engineers (ASME) plates. If only the output is listed, then assume 80% efficiency, unless there is documentation proving otherwise. This means you can find the boiler's heat input by dividing the heat output by 0.80.

To Convert From	To	Multiply by
Megawatts (MW)	British Thermal Units (Btu/hr)	3,412,141
Horsepower (hp)	British Thermal Units (Btu/hr)	33,478

- Construction, modification, or reconstruction started after June 9, 1989.

Construction is defined as fabrication, erection, or installation of a boiler. If construction began before June 9, 1989, but was not operational until after June 9, 1989, the boiler would not be subject to the regulation.

A **modification** is defined as any physical or operational change to an existing boiler which results in an increase in the emission rate to the atmosphere of any pollutant to which the standard applies. For example, if a natural gas-fired boiler was retrofitted to burn fuel oil, that would be considered a modification.

A boiler meets the definition of **reconstructed** if the fixed capital cost of the one-for-one replacement of parts exceeds 50 percent of the fixed capital costs required to construct an entirely new comparable boiler.

What Do I Need to Do?

Boilers subject to Subpart Dc are subject to both federal and state requirements. In addition, the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD) has been given authority by the U.S. EPA to enforce federal air regulations, including the NSPS. This means that typically an inspector from the AQD, not U.S. EPA, will visit your facility.

FEDERAL REQUIREMENTS

1) Initial Notification:

Send a written notification of the following information for each NSPS boiler:

Within 30 days after commencing construction:

Date of original construction or reconstruction, and anticipated startup.

The design heat-input capacity of the boiler and identification of the fuels to be combusted in the boiler (with regard to this fact sheet, only natural gas).

The annual capacity (fuel consumption) at which you anticipate operating the boiler.

Within 15 days after startup:

Date of actual startup.

An acceptable notification form is attached. Submit the completed form or one you create to the appropriate MDEQ-AQD District Office (see attached map). Even if your boiler has been installed and operating for years, please comply with the initial notification requirement if you haven't already done so.

2) Recordkeeping:

Monthly fuel usage records shall be maintained separately for each boiler for a period of two years. Use fuel bills if you only have one boiler at your facility. While reviewing fuel bills, remember that natural gas meters measure the volume of gas in units of cubic hundred feet (ccf, where the first "c" stands for the Roman numeral one hundred) or thousand cubic feet (mcf, where the "m" stands for the Roman numeral one thousand).

If you have two or more boilers, the fuel bill does not identify the amount of natural gas burned in each boiler. The easiest way to obtain monthly fuel usage records for more than one boiler is to install a dedicated natural gas meter for each boiler and take meter readings on a calendar month basis. A gas meter, however, requires an initial capital investment.

If you choose not to install a gas meter on each boiler, you may be able to prorate or predict the natural gas usage based upon many different methods. Upon prior approval by the AQD District Supervisor, each individual boiler's natural gas usage may be calculated using an acceptable alternative method proposed by the facility.

STATE REQUIREMENTS

Any facility that operates a boiler subject to the Subpart Dc is also subject to the following State of Michigan requirements:

1) MAERS Reporting:

The federal Clean Air Act requires that each state maintain an inventory of air pollution emissions for certain facilities and update this inventory every year. The MDEQ maintains the Michigan Air Emissions Reporting System (MAERS) reports for commercial, industrial, and governmental sources of air pollution in Michigan. This information is submitted to the U.S. EPA and added to the national data bank to track air pollution trends, determine the effectiveness of current air pollution control programs, serve as a basis for future year projections of air quality, track source compliance, provide information for permit review, and calculate the emissions portion of the air quality fee.

Facilities that have been sent a MAERS reporting package by late January must submit their completed MAERS report to the MDEQ by March 15. You can access the MAERS web site at www.michigan.gov/deq and click on "Air," "Emissions," then "Emissions Reporting," or call the Environmental Compliance Assistance Program (ECAP) at 1-800-662-9278 for MAERS information.

2) Air Quality Fees:

The Clean Air Act requires each state to develop a Title V, Renewable Operating Permit Program supported by air quality fees. The Michigan legislation establishes the following formula for calculating the annual air quality fee for each fee-subject facility:

$$\text{Annual Fee} = \text{Facility Charge} + \text{Emissions Charge}$$

The **facility charge** used in the fee formula is based on the classification, or category, of the facility. Facilities that are "major" under Title I of the Clean Air Act (have the potential to emit 100 tons or more per year of any pollutant) are classified as Category I facilities. Facilities that are "major" under Title III of the Clean Air Act (have the potential to emit 10 tons of any one hazardous air pollutant or 25 tons of any combination of hazardous air pollutants) are classified as Category II facilities. Category II also includes any facility with operations subject to a federal New Source Performance Standard. The facility charge is \$4,485 for a Category I facility and \$1,795 for a Category II facility.

The **emissions charge** is \$45.25 per ton of billable emissions. Billable emissions are actual emissions of fee-subject air contaminants. Emissions from natural gas-fired boilers that are fee-subject air pollutants include nitrogen oxides (NO_x), volatile organic compounds (VOCs), sulfur dioxide (SO₂), and particulate matter (PM). Carbon monoxide is not a fee-subject air pollutant. Any air contaminant regulated under Section 111 (Standards of Performance for New Stationary Sources) or Section 112 (Hazardous Air Pollutants) of Part A, Title I of the Clean Air Act, or Title III (Hazardous Air Pollutants) of the Clean Air Act is subject to the emissions charge.

EXAMPLE: ACME, Inc. is a Category II facility

TPY (tons per year)	Air Contaminants	Billable Emissions
NO _x	12	12
PM ₁₀		
SO ₂		
VOCs		
HAPs		
TOTAL	12	12

Facility Charge (Category II): = \$1,795

Emission Charge: 12 Tons x \$45.25/Ton = \$543

Annual Air Quality Fee: \$1,795 + \$543 = \$2,338

ATTENTION

According to Part 55 (Air Pollution Control) of the Natural Resources and Environmental Protection Act 451 of 1994, as amended (Act 451), Subpart Dc sources are subject to air quality fees. However, for 2007, the AQD has decided to waive fees for facilities that meet all of the following criteria:

The only sources of air pollution at the facility are boilers;

The boilers are capable of burning only natural gas (no oil backup); and

The boilers have a maximum design heat input capacity of 50 million BTU/hr or less.

Questions concerning specific invoices should be directed to the appropriate MDEQ District Office (see attached map).

3) Air Permits:

If the maximum design heat input capacity of your *natural gas-fired* boiler(s) is more than 50 million Btu/hr, it is necessary to obtain a Permit to Install. Please contact the ECAP for more information about air permits.

Where to Go For Help

Environmental Compliance Assistance Program (ECAP):

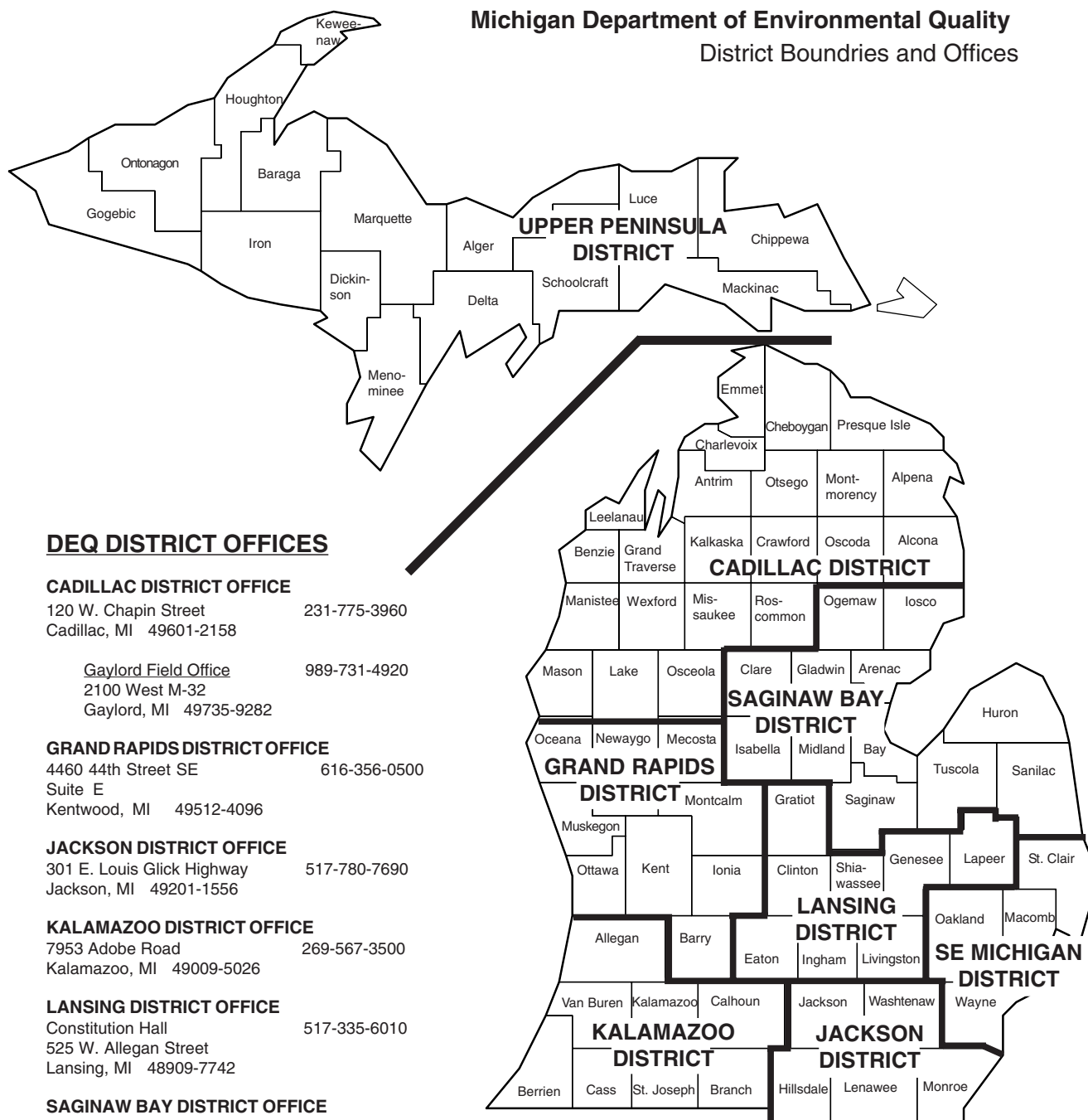
The ECAP can help companies with fewer than 100 employees understand and comply with federal and state regulations that protect our air, water, and land. If you need help completing your MAERS report, or have air permitting or fee questions, please contact the ECAP at:

Michigan Department of Environmental Quality
Environmental Compliance Assistance Program
P.O. Box 30457
Lansing, MI 48909-7957
1-800-662-9278

www.michigan.gov/deqair, click on "Clean Air Assistance"

Michigan Department of Environmental Quality

District Boundries and Offices



DEQ DISTRICT OFFICES

CADILLAC DISTRICT OFFICE

120 W. Chapin Street 231-775-3960
Cadillac, MI 49601-2158

Gaylord Field Office 989-731-4920
2100 West M-32
Gaylord, MI 49735-9282

GRAND RAPIDS DISTRICT OFFICE

4460 44th Street SE 616-356-0500
Suite E
Kentwood, MI 49512-4096

JACKSON DISTRICT OFFICE

301 E. Louis Glick Highway 517-780-7690
Jackson, MI 49201-1556

KALAMAZOO DISTRICT OFFICE

7953 Adobe Road 269-567-3500
Kalamazoo, MI 49009-5026

LANSING DISTRICT OFFICE

Constitution Hall 517-335-6010
525 W. Allegan Street
Lansing, MI 48909-7742

SAGINAW BAY DISTRICT OFFICE

503 N. Euclid Avenue, Suite 1 989-686-8025
Bay City, MI 48706-2925

SOUTHEAST MICHIGAN DISTRICT OFFICE

27700 Donald Court 586-753-3700
Warren, MI 48092-2793

Detroit Field Office 313-456-4700
Cadillac Place
3058 West Grand Boulevard, Suite 2-300
Detroit, MI 48202-6058

UPPER PENINSULA DISTRICT OFFICE

420 5th Street 906-346-8300
Gwinn, MI 49841

ENVIRONMENTAL ASSISTANCE CENTER

(for general information):

Telephone: 800-662-9278
Fax: 517-241-0673

POLLUTION EMERGENCIES

Telephone: 800-292-4706

DEQ WEB PAGE

www.michigan.gov/deq



INITIAL NOTIFICATION AND INFORMATION

New Source Performance Standards

This information is required by the Federal Clean Air Act and Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR, Part 60, Subpart Dc-Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Please print or type all information.

COMPANY INFORMATION			
LEGAL NAME			
OTHER COMPANY NAME (if different from legal name)			
MAILING ADDRESS			
CITY		STATE	ZIP CODE
SITE ADDRESS (if different from mailing address)			
CITY		ZIP CODE	COUNTY
STANDARD INDUSTRIAL CODE (SIC)		EMAIL ADDRESS	
CONTACT NAME		CONTACT TITLE	
TELEPHONE NUMBER		FAX NUMBER	

BOILER INFORMATION			
Boiler Identification/Make		Date of boiler start-up (or anticipated)	
Boiler Model Number		Rated design heat input capacity	Btu/hr
Date (year) boiler manufactured		Primary fuel type	Natural Gas
Date of original boiler construction, modification, or reconstruction		Estimated quantity of primary fuel used per year	Ft ³

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Boiler Identification/Make		Date of boiler start-up (or anticipated)	
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INITIAL NOTIFICATION AND INFORMATION

New Source Performance Standards (continued)

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SIGNATURE	
I hereby certify that the information contained in this Initial Notification and Information form is true and correct to the best of my knowledge.	
NAME OF OFFICIAL (printed or typed)	TITLE OF OFFICIAL
TELEPHONE NUMBER	DATE
SIGNATURE OF OFFICIAL	